
On 4 September 2018, ‘cOAlition S’, a coalition of national research funders, supported by the European Commission, launched ‘Plan S’, an initiative to accelerate the transition to open access in scientific publishing. Currently, several national funding bodies in Europe have committed to Plan S, others have not. The plan consists of 10 principles for the transition to Open Access and more specific implementation guidelines were published by cOAlitionS on 27 November 2018.

EuChemS supports the transition to Open Access (OA) in scientific publishing. Access to research and dissemination of knowledge is a fundamental purpose of our community’s values and aims. As a representative for research chemists and chemical societies across Europe, we welcome the conversation and the debate that this has engendered and look forward to working together with all stakeholders on finding sustainable solutions that secure the interests of researchers, societies, funders, librarians and publishers involved in the important task of disseminating scientific research.

Although the implementation guidelines provide some clarifications, we believe the consequences of Plan S remain unclear and could undermine the visibility and vitality of European research on a global stage if not properly implemented.

European science is strong, vitally important and represents an impressive 30% of total global scientific research articles. Current Plan S countries’ share of global research articles is estimated at 15%, and the share of research articles funded by the Plan S funders is estimated at 3.3%\(^1\). This is not a sufficient critical mass of articles to encourage global publishers to change their business model and transition their entire portfolio to Open Access. If Plan S is rolled out in isolation, members of our community have identified the following potential unintended consequences for European researchers if they are to be limited in where they publish compared to researchers elsewhere:

- Negative impact on the visibility of European science and scientists.
- Negative impact on collaborations between researchers that are restricted by Plan S and those who are not and who wish to retain the ability to publish in high profile non-Plan S compliant journals.
- Negative impact on career opportunities for Plan S funded researchers who compete with researchers who have no restrictions.

In addition, learned societies have developed and nurtured the high-quality chemistry journal market. These journals are highly valued by the communities that EuChemS serves, and we have

concerns that the Gold Open Access model is not well suited to support the inherently high costs of producing these publications and could undermine these high-quality journals.

We welcome that cOAlitionS now engages with the community by allowing for feedback on the proposed implementation plan. We believe such an approach is important in order to ensure that we can together reach our common goals. We therefore strongly encourage cOAlitionS to continue the dialogue with all stakeholders—scientists, learned societies, funders, policymakers, librarians and publishers — and that necessary time is given to this consultation and implementation phase. The risks associated with a poorly scrutinised Plan S are too large to not take the necessary time to fully evaluate the consequences of Plan S.

In the following, we highlight the main areas of concern regarding the implementation of Plan S to the European Chemistry community.

1. We note that the implementation plan suggests that cOAlition S will perform an independent study to determine a fair and equitable Article Processing Charge (APC), including equitable waiver policies, addressing Principle 5. EuChemS strongly advises that a cap on APCs is not applied. In part it would undermine the ambition of a well-functioning market and could lead to a market in which it is difficult to maintain and fund high-quality journals with high rejection rates, a key characteristic of journals operated by learned societies. Indeed, the absence of caps on APCs is key to ensure that quality is rewarded in an OA business model².

2. The plan needs to be implemented in a way which ensures the vitality of learned societies as providers of knowledge, support and services for their communities. Societies strive to advance the scholarship of their discipline for the public good and further the public understanding of science. The speed of the proposed roll-out of the plan and the inherent difficulties of using a Gold OA model on highly curated and quality-controlled journals pose significant challenges to many society journals, leading to a potential diversion of articles away from society journals and leading to a decrease in the diversity within the publishing landscape as society publications are not sustainable under this transition. In this context research intensive industries would in an OA world benefit from immediate access to research findings. This could drive innovations, but in the author pays Gold OA model it also removes this funding (companies paying for access) from the system and to some extent means that taxpayers’ money is subsidising access to knowledge for these organisations.

3. In a transition phase, finding the right market value of different publication channels will be difficult. Plan S may, as an unintended consequence, lead to the dismantling of some of the best journals in scientific domains such as chemistry, with harmful consequences for the dissemination of important scientific results. cOAlitionS must in an interim phase provide the necessary support mechanisms to avoid this from happening.

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² https://pub.uni-bielefeld.de/download/2931061/2931062/Schoenfelder%202018%20APCs.pdf
4. EuChemS endorses that publication fees should largely be borne by funders or the scientific institutions and not by the individual researchers. As institutions have larger financial flexibility than individual researchers, this would make it possible to maintain a diverse range of APCs to ensure the financial viability of high-quality journals in narrow research domains but also journals that aim for only the top research in broad science domains. We are also pleased to note the explicit commitment that all researchers should be able to publish their results in Open Access journals or on Open Access platforms, even if their institutions have limited resources. This is key to ensure that all research of high quality is being made available to the scientific community. However, the implementation must specify how this will be achieved.

5. EuChemS is of the opinion that the creation of additional Gold OA journals in scientific areas with a lack of journals or publishing platforms that are compliant with Plan S would not be beneficial to the scholarly endeavour. The total market of scholarly publishing does not need additional publication channels, but to strengthen the quality of publishing. EuChemS would strongly encourage that cOAlistionS put the thrust on flipping existing journals to an OA model by working together with librarians, publishers and learned societies to find viable business models for this transition. Such a focus would also more easily allow European researchers to continue to publish with the leading researchers worldwide. EuChemS represents 42 learned societies in the field of chemistry in Europe and would be happy to engage with cOAlistionS members on developing Plan S-compliant business models for the journals of learned societies.

6. EuChemS would encourage cOAlistionS to accept mirror journals or any form that would allow free open access throughout the transition phase to a full OA publishing landscape. With transparent cost models for both subscription and OA journals, mirror journals will allow the quality of established journals to be maintained while serving both the subscription-based and OA-based publishing models.

7. EuChemS is happy to see that Green OA is accepted as a Plan S-compliant publication route. We would nevertheless strongly encourage that reasonable embargo periods could still be applied in the transition phase that is needed to achieve the goals of Open Access publishing. This would ensure that there is a fair market for competition between publishers choosing different paths for Plan S compliance in this transition phase when hybrid publishing models can still operate.

8. EuChemS is glad to see that cOAlistionS members recognise the intimate relation between scholarly publishing and research assessment, in particular assessments made for the purpose of funding decisions. EuChemS endorses the commitment of the cOAlistionS members to the DORA principles and their commitment to implement these principles in their evaluation processes. However, it is imperative that these implementations be finalised among all cOAlistionS members prior to the implementation of Plan S in order to avoid uncertainty among, in particular, early-career researchers and undesirable funding decisions.
for researchers that adhere to the Plan S principles. We also emphasise that science is global, and it would be highly recommended if the DORA principles could be accepted much more widely than just among cOAlitionS members before Plan S comes into full effect in order not to jeopardise the career of early-career scientists. However, signing DORA is by itself not sufficient, the culture for rewards and recognition must be changed globally, a process that can be expected to be a slow one.

9. EuChemS lacks a clear indication of what the outcome of the evaluation that will be conducted in 2023 will be. It is important that there are clear indications on the consequences of non-compliance in order to ensure equitable conditions for publishers in the transition phase. We believe this evaluation will identify necessary adjustments to principles and implementation of Plan S, and thus expect that a longer transition phase will be needed for these corrections to be able to take effect.

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**About the European Chemical Society (EuChemS)**

EuChemS, the European Chemical Society, coordinates the work of 47 Chemical Societies and other chemistry-related organisations in Europe, representing more than 160,000 chemists. Through the promotion of chemistry and by providing expert and scientific advice, EuChemS aims to take part in solving today's major societal challenges.

For further information, please visit [www.euchems.eu](http://www.euchems.eu) or contact us [secretariat@euchems.eu](mailto:secretariat@euchems.eu)

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8 February 2019